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MANURES:—A PRIZE ESSAY.

By S. L. Dana.

SECTION SEVENTH.

Of the Circumstances which affect the Quality and Quantity of Dung.

That we may reduce to some general principle, easily understood and easily remembered, the facts scattered up and down, among the mass of writers and observers, about the different quality of manure, afforded by different animals, or the same animals at different times, let me, reader, request your company while I walk into a new department of your chemistry. You may not understand the reasons of this difference in manures; why, for instance, fattening cattle give stronger manure than working oxen, without going a little into the mode how animals are nourished. The whole may be stated in plain terms thus:—All food serves two purposes. The first is to keep up the animal heat, and this part of food disappears in breathing or in forming fat; that is, after serving its purpose in the animal body it goes off in the breath or sweat, or it forms fat. It is so essential to the action of breathing, that we will term it food of breathing, or the breathers. The second purpose answered by food is, to build up, sustain, and renew the waste of the body.

Now all this is done from the blood. To form blood, animals must be supplied with its materials ready formed. They are ready formed in plants; and animals never do form the materials for making blood. We may therefore term this kind of food the blood formers. We have then two classes of food; the breathers, and the fat formers, and the blood formers. If we look to the nature of these different classes, we find that sugar, starch and gum are breathers. Now there are three principles found in plants, exactly and identically the same in chemical composition with white of egg, flesh, and curd of milk. Now these three principles, exactly alike, whether derived from animals or from plants, are the only blood formers. I shall not, reader, tax your attention further upon this subject, than to say and to beg you to remember these important facts. First, all food for breathing and forming fat contains only these three elements, oxygen, hydrogen, and carbon. Secondly, all food for forming flesh and blood, in addition to these, contains nitrogen.

This is the gist of the whole matter, so far as relates to manure. Bear in mind, as you go on with me, reader, that fact, that of all the food animals take, that alone which can form flesh and blood contains nitrogen. The door is now open for explaining why age, sex, kind of employment, difference of food, difference of animal, can and do produce a marked difference in the value of different manures. And first let us consider how the quantity is affected; this depends on the kind of food. The analysis of cattle dung which has been given, is that of cows fed on hay, that is, herd's grass, red top, &c., or what is usually termed, English hay, potatoes and water. The cattle kept up the year round; an animal, so treated, consumed in seven days,

Water,	611 lbs.
Potatoes,	87 "
Hay,	167 "

During this time she dropped clear dung 599 lbs., or very nearly a bushel of dung a day. Every attention was here paid to accuracy of measurement and weight. The annual amount of dung from one cow exceeds by this account that which is usually assigned. But, as it is a matter of some importance for the farmer to estimate what the produce of his stock may be in dung, the following statement, containing the results of a large establishment, will probably give that average.

At this establishment the cows were kept up the year round for their dung. It was collected for use free from litter, and measured daily into large tubs of known capacity. The average number of cows kept was fifty-four for nine and a half years. During that time they consumed of beets, meal, and pumpkins, brewery grains, cornstalks, turnips, potatoes, carrots, and cabbages, 942,436 lbs. giving an average of green fodder, for each cow per annum, 8,164 lbs. The total dung for nine and half years was 120,520 bushels, or per cow per annum, 235 bushels. This gives a daily consumption of green food, 5 lbs., and 22 lbs., of hay per cow, and two and a half pecks of dung per day, or about 56 lbs. per cow.

But according to some experiments, made to determine how much the quality of the food affected the quantity of dung, it appears that the solid and fluid excrements partially dried, were, compared with the food, as follows:

In		Cattle. lbs.	Sheep. lbs.	Horses. lbs.
100 lbs.	of rye straw gave dung	43	40	42
" "	" hay " "	44	42	45
" "	" potatoes " "	14	13	
" "	" mangel-wurtzel "	6		
" "	" green clover "	9½	8½	
" "	" oats " "		49	51
" "	" rye " "			53

My own experiments on this subject gave for 100 lbs. of hay and potatoes as above, estimating both as dry, or free from water of vegetation, 32.9 lbs. of dung, and this estimated as dry is reduced to 5.6 lbs., or 26 lbs. of dry food gave 14 lbs. of dry dung. But as a general fact, we may say, that well cured hay and the grains, give one half of their weight of dung and urine; potatoes, roots, and green grass, about one tenth. It will be easily understood why the quality of food should affect the quantity of dung. The more watery, the less in bulk is voided, because there is actually less substance taken. And as the animal requires this to form its flesh and blood and fat, and to keep up his breathing, so will he exhaust more completely his food. More going to support him, less is returned by the ordinary channels. So when much vegetable fibre exists, as in chopped straw and hay, then, as it goes but little way towards supporting breathing or forming blood, a greater bulk is rejected. In grains, on the contrary, which afford much of all that the animal requires, less is extracted and more voided. These circumstances are intimately connected.

THE QUALITY OF THE DUNG.

It is affected first, by the season; second, by the age; third, by the sex; fourth, by the condition; fifth, by the mode of employment; sixth, by the nature of the beast; seventh, the kind of food.

1st. The season; it is because digestion is worse in summer than in winter, a general fact, that summer manure is best. And where cattle are summer-soiled, it is said the manure is worth double that from stall-fed winter cattle. I do not think much is to be attributed to the worse digestion in summer, but the cause of this great difference in value, is to be found in the fact, that soiled cattle generally get a large proportion of blood-forming food.

The wear and tear of their flesh is little, and hence, requiring little of their food to keep up their flesh, a greater portion goes off in dung, which thus becomes rich in ammonia. The green plants, rich in nitrogen, afford abundance for milk, which, being rich in all the elements of cream, should afford large returns of butter.

2d. Age; from the fact, that young and growing animals require not only food to form flesh and blood, to repair the incessant waste and change taking place in their bodies, as in older animals, but also a further supply to increase the bulk of their frame, it is evident that their food will be more completely exhausted of all its principles, and that also less will be returned as dung. All experience confirms this reasoning, and decides that the manure of young animals is ever the weakest and poorest.

3d. The sex. This is one of the most powerful of the causes which effect the strength of dung. From the remarks which have been already made, and which I trust, reader, are now fresh in your memory, of the important part acted by nitrogen in dung, it must be plain why sex should exercise such influence.

1st. In all food, as we have explained, that only which contains nitrogen, can form flesh and blood, or substances of similar constitution, that is, requiring a large proportion of nitrogen, as milk. Hence an animal with young, that is, a cow before calving, requires not only materials for its own repair, but to build up and perfect its young. Hence the food will be most completely exhausted of its nitrogen, and consequently the dung become proportionably weaker.

2d. The young having been formed, then milk is required for its sustenance. Milk contains a large proportion of nitrogenous or blood-forming elements, and so the cause which originally made the dung weak, continues to operate during all the time the animal is in milk. Sex, then, it is evident, affects materially the quality of the dung.

4th. The condition. If the animal is in good condition, and full grown, it requires only food enough to supply materials to renew its waste.

Hence, the food, supposing that always in sufficient quantity, is less exhausted of its elements, than when the animal is in poor condition. In the last case, not only waste, but new materials must be supplied. If the animal is improving in *flesh*, (and here, reader, I would have you bear in mind, the distinction between flesh and fat,) if the animal is improving in flesh, then the manure is always less strong, than when he is gaining fat. There is no manure so strong as that of fattening animals. An animal stall fed, kept in proper warmth, requires but little of his breathing food, to keep up his heat. All the starch, gum, sugar, &c., go to form fat. Having little use for his muscles or flesh, that suffers little waste, and the nitrogen which should go to form flesh, is voided in dung. If it is a she, no milk is given during this period, for a cow, in milk, fats not.

The dung then of fattening animals, contains more of all the elements of food for plants, than at any other period, and is peculiarly rich in nitrogen. I trust, reader, it is not so long since you have met the word ammonia, that you have forgotten that its source and origin are due to this nitrogen. Now the source of this nitrogen is in the food, and as, during fattening, grain is supplied for its starch, &c., to make fat, and very little waste of the body taking place, the extra nitrogen of the blood-forming materials of grain, is nearly all voided in dung.

5th. The mode of employment. Your working beasts, suffer great wear and tear of flesh and blood, bone and muscle, thews and sinews. Hence their daily food supplies only this daily waste; the food is very thoroughly exhausted, and of course the dung is weak. It derives its chief value from the excretions of those parts of the body which are voided as waste materials, among the excre-

ments. There is a distinction to be noted here; excretions are the worn out flesh and blood elements, excrements the undigested and unused food; dung includes both excretions and excrements. Now the chief value of the dung of working cattle depends upon the excretions.

6th. The nature of the beast. If his coat is wool, he requires more sulphur and phosporus, the natural yolk or sweat of his wool, more lime and ammonia, than does the hairy-coated animal. Hence sheep produce manure less rich in many of the elements of plants, than cattle; but as at the same time it contains a larger portion of nitrogen, and is very finely chewed, it runs quicker into fermentation. It is a hotter manure, quick to eat, quick to work, and is soon done.

7th. The kind of food. We have already spoken of this as affecting the quantity of dung. Its effects are no less marked on its quality. Now all that requires to be said on this subject, is to remind you, reader, of the two divisions of food, the fat formers, and the flesh and blood formers. It must be evident, that the more of this last the food contains, that is, the more nitrogenous is the food, the richer the dung. Hence, grains of all sorts, peas, beans &c., will always give a richer dung than fruits, as apples, &c. The more nitrogenous the hay the richer the dung. Meadow catstail and rye grass are nearly six times stronger in ammonia. Red clover is twice as rich in nitrogen as herds grass; wheat, barley, and rye straw, green carrots and potatoes, contain only about one third to one fifth the ammonia of herds grass, and turnips only about one sixth. The quantity of ammonia contained in these different grasses and straws, shows at once, the effect they must have in the compost heap. The kind of litter must have no small effect upon the value of manure. And while we are upon this subject, it may not be out of place to mention, that the kind of a green crop turned in, materially affects the value of the process. While the straws of the grain-bearing plants afford for every ton of green crop turned in, about three quarters of a pound of ammonia, green corn-stalks and herds grass, about five of ammonia per ton; red clover affords about seventeen pounds of ammonia per ton.* The very great value of clover in enriching land is thus made evident. But to return to the quality of the dung, as affected by the food, it has been proved, that animals fattening on oil cake, give manure in value double that of common stock. Here abundance of nitrogen is supplied where every little is required, and consequently much is voided in dung. The point to which we have arrived is a breathing place, the remarks which have been offered upon the action of salts, have prepared the way for our entering upon the next Section;—the second class of manures.

*This is the relative, not the absolute proportion of ammonia. The analysis of Bonsingault, gives about fifty, and one hundred seventy as the absolute quantity.

Section Eighth.

Manures Consisting of Salts.

In using the term salts here, to designate a class of manures, I wish to distinguish between these and mineral manures, as they are usually termed. These manures are similar in kind to the salts whose action in cow dung we have already considered. They are truly mineral salts, derived from the mineral kingdom, entering into and forming a part of plants, and from this source introduced into the dung of animals. Their action, whatever be their name, has been explained. But the salts composing the second class of manures now under consideration, are not of mineral origin. They are derived from the animal kingdom. The source from which they are formed is the living process of the animal body. They are animal salts. Here, then, let us divide the second class of manures into animal salts, which are truly manures, both their base and their acid acting as nourishers of plants, and into mineral salts. Here again, reader, you will find that the few facts, which we have pointed out, relating to the food and nourishment, will help us on our way, in tracing the source of these animal salts. It has been already said, that the food of animals is divided into two classes; that which does and that which does not contain nitrogen. All domestic animals eat these classes. In a few words, let us trace their course after the animal has digested them. The one class goes to form fat, or to support the natural heat of the body, and passes off by the skin in sweat, or in moisture of the breath, and all its excess or undigested part goes off in dung. The excess of nitrogenous food, all that not required for repairing the daily waste of the body, or to increase its growth, also passes off in dung, as excrement. This is a small portion, and its effects on the strength of dung have been pointed out. But the wear and tear, as we may call it, of the flesh and blood, the parts which are daily and constantly thrown out of the body, as excretions, or old materials, enter the circulation, and pass out of the body in urine. This is the point to which I would call your attention. The undigested food, and the excrements not containing nitrogen, go off in dung. The food and the spent parts of the body, containing nitrogen, go off in urine. This last, too, is the course of most alkaline salts taken into the body. They pass off in urine. Here, then, we come to the subject quite prepared to understand it. The urine is a collection of salts, some are of mineral, other of animal origin. But that which gives the urine its peculiar and characteristic properties, is a substance formed from the nitrogenous food, and termen UREA Now you need hardly trouble yourself to remember this new name; all I want you to understand about it is, that when urine is exposed to air it rots, and this peculiar substance is changed to ammonia. This is the point to be remembered. In considering urine, therefore, as a manure, it will not be necessary to point out further the mode of its action, than to refer that of every animal, to its salts and power of forming ammonia. The quantity of the last will be in proportion to the quantity of urea. There are other salts of ammonia in urine, and also mineral salts. These affect but little the value of urine as a manure.

It is the urea, essence of urine, that substance which forms ammonia in rotting urine, which alone makes this liquid more valuable than dung. Hence, reader, if this is impressed on your mind, you will perceive, that the chiefest things to be regarded in urine, are first, the circumstances which affect the quality, and quantity. Second, the best mode of promoting a change of urine to ammonia. Third, the time required for the process, and fourth, the best mode of preserving the ammonia, when formed. You will perceive, reader, that all along, I have endeavored to point out the principles on which manures act. If you go by general principles, then for a plain practical farmer, like yourself, with only chemistry enough to understand a few of its terms, it must be quite a thankless service, to point out to you in detail, all the various things contained in urine. It would confuse you more than the names, ay, and hard ones too, which are given to the varieties of pears and apples. All you want to know is this, does urine contain, as solid dung does, water, mould, and salts?

It does. The mould is so small a part, it may be left out of view. The salts are like those in the solid dung, mineral salts, and then we have the peculiar principle urea, which for all practical purposes may be called ammonia. We may then with this division present in a table the composition of the urine of various animals at one glance:

	Water.	Salts.	Ammonia.
Cattle urine, per 100 lbs.	92.62	3.30	4.
Horse " " " "	94.00	5.03	.70
Sheep " " " "	06.	1.20	2 80
Hog " " " "	92.60	1.76	5 64
Human " " " "	95.75	1.88	2.36

Now cast your eye carefully over this table, the figures at once tell you the value of these different liquids. The last column gives the true value. The other salts vary much in quantity, and this affects the quality. The actual amount of ammonia in human urine and cattle dung is about the same; yet in actual practice it is found the effects of urine are nearly double those of dung. Look now for the reason of this; in the first place, the principle which gives ammonia in urine runs at once by putrefaction into that state. It gives nothing else; whereas in dung, the ammonia arises from a slower decay, and the principle which here affords ammonia may, and without doubt does, form other products. Hence we have a quick action with the liquid, a slower one with the solid. A second cause of the better effects of the liquid is, that it contains besides its ammonia, a far greater amount of salts, and these give a more permanent effect. The amount of salts in human, cow, and horse dung is about one pound in every hundred. While the urine of the same animals contains nearly six pounds in every hundred. A third cause of the greater fertilizing action, is found in the peculiar character of some of these salts, which are composed of soda, potash, lime, &c., united to an acid formed from urea, in the animal body. This acid is like the acid of saltpetre; it is a nourisher of plants, as much so as is carbonic acid.

(*To be Continued.*)

Vermin on Peach Leaves—Pears on Thorn Bushes.

Dorchester, June 5, 1844.

Mr. Editor.—Dear Sir: Accompanying this are some Peach tree leaves, which I wish you would inspect with the wisdom of the editorial eye, and then tell me what is the matter with them, or rather with the tree they come from, and what is the remedy for the evil.—You have published one or two articles lately upon diseases of the Peach tree, and perhaps upon this one; but I do not know. You will observe that they look like a blistered thing—they turn whitish and yellow; curl up, and upon being unrolled are sometimes (not generally) found to be full of a small insect resembling a louse. Is it the "Yellows?" Is it caused by the winds? by insects? worms in the roots or on the leaves? or some Weevil? (derived from the Scotch word *Deevil.*) These leaves come from a young Rare-ripe tree, which bears for the first time this year, and I should like to know if the fruit will be affected. The tree looks healthy, only that gum exudes in two or three places. Good wood ashes were put around it this year and last, in any quantity.—Lime I have not tried. My other Peach trees are similarly affected—some to a greater and some to a less extent, and so are the Peach trees in this neighborhood generally.

While I am about it, suffer me also to ask you whether Pear tree scions, grafted into the common thorn tree will bear fruit? I have set some which have taken and seem to thrive, but I am told they will not produce fruit. Do you *know* any instance where they have.

An answer to some of these queries will be gratifying and serviceable to

Your friend and subscriber,

A. C.

Remarks by the Editor.

☞ The leaves sent us by our Dorchester correspondent have nothing remarkable or new about them. They are curled up and appear blistered, and in many cases they will turn white.

It is supposed that these appearances are occasioned by the plant lice (*the Aphides*) that are often found upon them in great numbers. These lice are of various kinds; they are generally very fond of surrounding and coating the tender extremity of the growing plant, and getting their living by exhausting the sap. In young nurseries they are very troublesome, and we find no very easy mode of extirpation. Ley must not be applied to the leaves, nor to the tender extremities of the limb. Soap suds may be made just strong enough to kill the lice and not injure the twig or the leaf.

You will find ants almost uniformly following them; and many people have been led to suppose the lice the progeny of ants, but there is no foundation for this. It is known that the ant sucks the dew or something that issues from the lice, and it is certain that ants are on very good terms with them. An ingenious gardener told us recently that he had tried the experiment of winding something around a young tree full of lice, to prevent the ascent of the ants, and he found that in two days the lice were all dead. He concluded therefore that these lice cannot live without the society of ants. We hope to hear of more trials of this kind, to test the theory. As to the yellows in peach trees, we suspect this appearance is caused either by worms at the root or by insects on the leaves.—Both may contribute to the yellow appearance of the peach leaf.

One of our near neighbors once took pains to pluck off every leaf from two young peach trees whose leaves had been bitten, and curled and blistered up. A new set of leaves soon came out, and during that season they were not attacked again.—It would be easy enough to kill all the leaves by a shower of lye that would not hurt the wood; but a bearing tree must not be treated so; nor would it answer any good purpose to pluck off the leaves of such a one, and leave the fruit naked.

In some seasons these lice are vastly more troublesome than in others. When the tree has no fruit on it we recommend taking some method to destroy the leaf with the lice on it, but we are not sure this will wholly prevent the return of lice the next season. These lice multiply rapidly. They are found in Maine, wherever the apple tree is found, and they do as much mischief

there as in warmer latitudes. The-e are of various kinds and colors, and their modes of propagation are not so well ascertained as those of other vermin.

As to pears growing on thorn bushes there is no question. A pear scion will usually bear sooner when set in a thorn bush or into a quince stock, than on a pear stock, but there is nothing gained, on the whole, by thus setting them; the trees will be dwarfs and short lived.

There is an advantage in setting peach buds into plum stocks, because these stocks have no worms in their roots as peach trees have; and the peach fruit is not attacked by the curculio as the plum is.—*Mass. Ploughman.*

On Potatoes.

Sir: The following experiment with potatoes was tried with the view of discovering the cause of so many failures in the crops, of late years, from the seed not vegetating and rotting in the ground.—I had an idea that the vegetable principle of the plant might become weak, in consequence of being grown on land that had not been a long time subject to cropping, and not allowed any length of time to lie at rest. I therefore raised a few bolls on land that had lain lea for 70 years—being part of my bleach green—and found that these, on being planted again the following year, were remarkably strong and healthy, and not a plant gave way; and I have continued the same method for the last six years; and the result has, in every instance, been equally favorable. Four years ago, one boll of my seed potatoes was planted along with some others in a field of about an acre; the other seed was grown on the farm; and the seed all gave way, excepting that got from me.—They were all planted at the same time, and in the same manner. From these circumstances, I am of opinion that, if farmers were careful in r.ising their own seed potatoes from land that has lain long in a state of rest—*or, where that cannot be had, the same object can be obtained by bringing new soil to the surface, by trenching as much as is necessary, or by the use of the subsoil plough—failures from the potato crop, from the seed not being good, would become much less frequent. I am somewhat confirmed in this opinion by the fact that it has been found for the last dozen of years, that, generally, the best seed potatoes have been got from farms in the moors or highlands of the country. The reason of this may be, that these highlands have been but of late brought under crops of any kind, and many of them newly brought from a state of nature; and the superiority of seed potatoes from these highlands may not at all arise, as is generally supposed, from a change of soil or climate.

Potatoes raised on a new soil, or on ground that has been long lying lea, are not so good for the table as the others, being mostly very soft; and by the following experiment, it would appear that they contain a much less quantity of the farina than those which are raised from land that has been some time under crop; and perhaps this is the reason why they are better for seed. From one peck of potatoes grown on land near Paisley, which has been almost constantly under crop for the last thirty years, I obtained nearly 7 lbs. of flour, or starch; and from the other peck, grown on my bleach green, the quantity obtained was under 4 bs: from which it would seem, that, as the vegetative principle of the plant is strengthened, the farinaceons principle is weakened, and *vice versa.* JAMES STIRRAT.

*Mr. Finnie, of Swanstone, informs me that the growing of potatoes intended for seed upon new land, has long been practised by good farmers.—Mr. Little, of Carlegill, near Langholm, writes me, that in Dumfriesshire, they obtain the best change of potato seed from mossy land; of oats and barley from the warmer and drier climate of Roxburghshire. The grains, he adds, degenerate by *once sowing*, still looking plump when dry, but having a thicker husk, and weighing two or three pounds less per bushel. The deterioration of seeds in general is a *chemico*-physiological subject of great interest and importance, and will doubtless soon be taken up and investigated.—*Tennessee Agriculturist.*

Preparing Land for an Orchard.

Mr. Editor:—Dear Sir,—I intend next spring to set out some fruit trees, and the ground I design for that purpose, is now mowing land, and has not been ploughed for several years.

And Sir, if you will give me some directions with regard to preparing the ground, and the best method of promoting the success of said trees, you will greatly oblige a subscriber to your paper.

Boston, May 30, 1844.

☞ If the trees are to be set next season the green sward land should be ploughed by all means this month or it will not be mellow enough, without much cost, to set trees well next spring. Plough immediately and let the sward rot completely. If you choose to keep something growing on your land you can sow millet or buckwheat to be buried in the fall, if the sward is tough millet will be better than buckwheat, for you will not be obliged to turn it so soon in the fall—not till the sward becomes quite rotton.

Land intended for orcharding should be ploughed deeper than for any of the grain crops—because the trees will thrive better, having more moisture—and because the fruit will hold on better in a dry summer. Orchards often suffer much in a dry time, losing off the fruit prematurely and suffering more from insects than when their growth is rapid and constant.

Hilly lands, full of rocks, are notoriously better adapted to apple trees than drier plains. And hilly rocky lands retain moisture longer. Apple trees should never be set in low flat grounds where the water stands in any part of the year. But moist lands that are always free from standing water seem to suit them best.

When the trees have been set, there will be no need of ploughing unusually deep, but you will find it necessary to keep the sod constantly broken, if you would have your trees grow. As to the best mode of setting out trees you will see some hints in the numbers for March and April.—*Mass. Ploughman.*

To destroy Bugs on Vines.

We have tried many things for this purpose, and have made a compound of many nauseous ingredients and applied it to the vines, sometimes with little and at other times apparently with no effect. The little rascals will eat their favorite food, when very hungry, and who would not eat without squeamishness, in spite of annoying and offensive substances rather than die of starvation? Many things such as lime, ashes, sulphur, elder tea, green cow manure, or horse manure mixed with water, a decortion of tobacco, or even common dust or sand, will do some good, yet the insects will eat what they please, and sometimes this is no small amount, in defiance of any of these, or all of them and many other equally offensive things mixed together. We have tried them all. The only remedy is to plant many seeds, and when they make their appearance pinch them to death. In this way we have succeeded. They can be conveniently killed before the dew is off, or in damp weather; but to kill them all, and not to allow one to escape, when forty or fifty are on the hill at a hot sunny hour, requires dexterity and some management. Take a handful of dust or fine sand and come softly near the hill and throw it suddenly over the *varmints*, then despatch them before they shake the dust from their wings.—*Bost. Cultivator.*

Ashes or Lime around Posts.

Where the articles are plenty and cheap, it is good economy to put some lime or ashes around the posts of fences to prevent rotting. In some dry soils, posts will become so rotten in four or five years that they are easily broken off at the surface of the ground, while the tops last for fifty years.

It seems proper, therefore, to take some care to prevent the rapid decay of posts just at the surface of the soil, where they are most exposed to alternate moisture and drought. It is this frequent wetting and drying that causes such rapid decay; for posts set in a wet meadow will hold sound at the bottom longer than at the top. And posts in a moist clayey soil will last three times as long as in a dryish gravel or sand. Posts kept perfectly dry, will last longest.

Worms are often found in timber at the surface of the ground, and they assist in weakening the timber. Perhaps it is owing to this that ashes are so useful in preserving the posts when set in the ground.

Whether it will pay cost to place some substance as ashes, lime, charcoal, or cinders around the foot of posts in common or cheap fences, each owner can determine. But in a costly garden fence we are fully satisfied that much may be saved. Any kind of post will last twice as long in dry ground, with ashes about the bottom of it, as without ashes.—Now is the time of year to make the trial.—*Mass. Ploughman.*

Russel's Nursery, Cambridge.

Mr. Philemon Russel is a very skilful farmer and nurseryman. Though his nursery is not extensive, it is in a very flourishing condition. When we were there about the first of this month, some plum scions set in April had grown 15 inches. We collected some facts from Mr. Russel that may be useful.

He had some plum trees near his house that were remarkable thrifty, never having been injured by the black wart, nor the fruit by the curculio. They yield a good crop annually. They are in a moist rich soil, and near the sink, so that with a spout the water from the sink is directed around the trees by turns.

We saw scions of the Bartlett pear that were set in the mountain ash three years ago, that had grown four or five feet in length, and an inch in diameter, and they had a good lot of pears on them looking very fine and nourishing.

Mr. Russel raises some trees in a deep light loam, and others in a very gravelly soil. There is not much difference in the trees above ground, all growing well; but in the roots there is a great difference.—Those in the gravelly soil are very fine, spreading out a good length horizontally, while those in the deep loam are short and run down, and have much less root than those in the gravelly soil, besides the disadvantage of being ill shaped, and in a wrong position, tending downward.

In setting trees, Mr. Russel on filling up the hole makes the earth concave: this hollow serves to catch all the water that falls near the tree and directs it to the root; and in this concavity is placed, sedge, straw, or litter of some kind to retain the moisture and make the soil light; on this material are placed some stones or earth to prevent the materials from blowing away. To guard against the depredations of the mice, the litter should be removed before winter, and the concavity filled, and a convex surface formed; this will also guard against injury from frost by throwing off the water. Fruit trees require much attention the first season after they are transplanted, particularly if the season be dry. We saw at Mr. Russel's quite small plum trees that had fruit on them, though they were transplanted this season.

It is well known to many cultivators that cherry trees sometimes grow so fast that they are bound by the outer bark, and consequently burst that bark, and in this case the tree generally cracks, and is greatly injured—sometimes destroyed. As a remedy some slit the outer bark from the limbs to the root. Though this is generally better than to allow it to burst, yet the tree often splits in the winter by having this slit running with the grain. Mr. Russel slits the bark of his cherry trees spirally, making numerous short slits.—This relieves the binding of the bark. As the slits run across the grain of the trunk obliquely, they do not cause the wood to crack, and as he barely cuts through the outer bark, the inner bark generally remains whole.

Mr. Russel disapproves of washing trees much with potash water, he has tried a wash of one pound of potash to a gallon of water, as some have recommended, and he found that it injured the trees so that it became necessary to scrape off the outer bark, that had been killed, that it might not bind the tree. There are numerous cases of injury in this way. We have noticed some in which the bark has burst open, being killed so that it could not grow. Capt. Hull of Sherburne, nearly killed his trees in this way, so that they threw up numerous suckers at the roots. One pound of potash to a common pail full of water makes a very strong lye, which are the proportions we recommended some weeks since, but a pound of potash to a gallon of water, makes a powerful wash, if the potash be good, sufficiently so to destroy almost every vegetable, as many have learned to their sorrow.—*Boston Cultivator.*

Recipe.—*The Face-Ache.*—The common affection, says Dr. Watson, so often supposed to be excited by a diseased tooth, although the latter failed to be detected—a rheumatic, chronic kind of pain, wholly different from that of tic doloureux—is often speedily curable by muriate of ammonia. This salt should be given in doses of half a drachm, dissolved in water, three or four times daily. About four doses will be sufficient to test the potency of the remedy. At other times the iodine of potassium, in five or six grain doses, is quickly effective towards a cure. The efficiency of the latter remedy renders it probable that the affection is of the nature of periosteal inflammation.

THE AMERICAN FARMER.

PUBLISHED BY SAMUEL SANDS.

Transactions of the N. Y. State Agricultural Society.—We notice by our exchange papers that the volume of Transactions of the N. Y. State Agricultural Society has been issued, and we regret to say that our kind friend of the Albany Cultivator, its respected and intelligent Secretary, has forgotten us.

THE WHEAT CROP—The papers from various quarters contain accounts of injury to the wheat crops from *Rust*, owing to the alternations of rain and sun. To what extent this injury may have extended we are not prepared to say, though, from the range of country over which this disease is said to have spread, we are disposed to think that the loss will have proved considerable. But a few weeks since and this crop promised to turn out the largest grown for many years, a strong proof of the uncertainty of all human calculations, and how precarious are such as may be based upon appearances.

The *Hessian Fly* that old and deadly foe of the wheat grower, has, in several sections of our country, made its appearance and effected its usual quantum of devastation, bringing fresh to the recollection of the husbandman the mercenary cohorts in whose *forage*, during the revolution, this insidious enemy was introduced into our country, to entail upon those who were to live after the patriot band by whom our liberty was achieved, an evil still more dreadful than the deeds in arms of England's hirelings in the battle field; for men of pure hearts and nerves of steel were then present, to return more than blow for blow—with arms, strengthened by love of freedom, to hurl defiance and death upon those, who, for base lucre, had arrayed themselves against the father of the Republic and his brave compatriots; but although he and they made the men of Hesse Castle bite the dust, the latter left behind them in this insignificant insect, a scourge which has defied all the remedial resources of prevention and cure.

GUANO—We give below the article to which we alluded in our last. We copy it from the 6th volume of this paper, published 20 years ago, to show two things—*first*, that although this *manure*—for that is the meaning of its name—is treated, both here and in Europe, as among the few "new" things "under the Sun," it is, in reality, rather an ancient affair, so far as *our country* is concerned—its virtues having been successfully tried by two of Maryland's most cherished sons—the late Hon. Robt. Smith, president of the Old Maryland State Agricultural Society, and the late governor *Lloyd*. Of the experiment tried by the latter gentleman, we had a very gratifying account communicated to us by a friend, a resident of Delaware, two years ago—he received it from one of the late governor Lloyd's sons, who assured him that his father had been presented with a small quantity and had spread it on a strip of wheat *then* growing; and that such was the difference between that and the adjoining crop, that it could be distinguished many feet distant; that the product in grain was greater, and the grain itself better; and that the little slip upon which the *Guano* had been sown, had maintained its superiority over the adjoining land ever since, although many years had elapsed. The *second* thing which we wish to show, is, that our country was indebted to the ever watchful vigilance of the *founder* of The *American Farmer*, for the *first* Guano ever introduced into the United States; and it is but paying him a fee-lin compliment to say, that had his enterprise been backed by the farmers of that day, in the generous spirit which it deserved—had they created a *demand* for this life-giving product, and liberal *importations* followed, a new face would have been conferred upon American husbandry; for there is no question in our mind, that, for all the berry-bearing families of vegetables, as well as for the grass crops, generally, *there is no manure superior to Guano*—its very constituent elements would prove this, if *experience*—the safest and most trustful of all schools—did not stand forth, in bold relief, to verify our affirmation.

Among the advantages resulting from the introduction of *Guano* as one of the reliable improvers of soil, would be the *economy* it would effect of labor, time and expense in transportation. A man of ordinary bodily strength, would be able to place a bag of it on his shoulder, march with it to the field, and manure an acre of ground in less than a day—and it is but fair and reasonable to conclude, that the saving which would thus be effected, in the expense of transportation and spreading alone; to say nothing of the value or cost of barn-yard or stable manure, would more than compensate for the price of Guano twice told, with these differences in favor of the latter—a more cleanly culture would result, and much valuable time be spared, at a period when labor is in great demand, for the urgent necessities of the farm.

The pains which Mr. Skinner took at the time to which we have alluded, to introduce Guano to the favorable consideration of the farming and planting interests, in our view, give him strong claims upon their gratitude, while at the same time, it demonstrates the soundness and sagacity of his mind, whose intuitive quickness and discrimination, enables him to anticipate, as it were, the slower processes of ratiocination, by which other men arrive at conclusions. That the American husbandman did not, at the time, profit by his exertions to unfold to them the virtues and economy of this labor-saving *meliorator* of the soil—that they did not see fit to avail themselves of his suggestions, does not, in the least, militate against his claims—neither does it abstract from the merits of his far seeing ken, which enables him to comprehend at a single glance, what it would take others years of study to understand.

At the early period which we have named, he did all that he could to give Guano a start in this country—and at that time, as it would appear, little or nothing was known of it in England, where they have *now* a great number of vessels exclusively engaged in the trade.

While we have pen in hand, and the subject of *Guano* under consideration, we will improve the occasion to say that it may be obtained in this city; that Messrs. Birckhead & Pearce, are selling it at 4 cents a pound, being a considerable reduction from the price at which they had heretofore held it; and although the season is passed for its use in connection with the culture for which we are about to recommend it, we will state, as our firm conviction, that for TOBACCO BEDS, it would be found the very best of all possible manures; because for them the *cost would be trifling* compared with the advantages which we sincerely believe would result. Until the plants of even the largest tobacco planter are *drawn*, his whole crop is concentrated in a very small compass—and *plants*, it must be acknowledged, constitute the great *desideratum* with the Tobacco planter. Should it not then, be an object with him to test the utility of this manure upon his plant beds? A hundred weight, which would cost say five dollars, freight included, if within 30 miles of Baltimore, would be sufficient to manure plants enough to give him twenty hogsheads of tobacco; and we have no doubt that, if judiciously applied, it would give such an impetus to the growth of his plants, as would very soon place them beyond the baneful influence of the *fly*, and enable him to transplant them into his fields at a much earlier period than usual, where, if they were to receive an additional dose, however minute, they would not fail to return the favor bestowed at a ratio of increased yield equivalent to compound interest.

These must be considered as mere suggestions of ours; but they are suggestions based upon much personal reflection, and sustained by the opinion of one whose ripe judgment, rich experience, singleness of purpose and devotion to the tobacco planting interest, entitle his *opinion* to the highest consideration and most profound respect.

In *England*, GUANO has been found to be an *antidote* against the *grub-worm*: might it not prove also an antidote against the Tobacco fly and worm? We throw out this fact and the question based upon it, in the fond hope that it may conduct to *experiments*.

With these prefatory remarks, we beg leave to direct the reader's attention to the following article, published in this journal twenty years ago. We republish it now, because it will, we are certain, be read with avidity by our *present* patrons. It is comprised of *Extracts from Ulloa's Voyages*, and an *Analysis of Guano*, by French Chemists of great distinction.

[*From the American Farmer of Dec.* 24, 1824.]

GUANO—A CELEBRATED MANURE USED IN S. AMERICA.

[With some other curious articles and valuable seeds brought from the Pacific by Midshipman *Bland*, in the Franklin, he favored us with a specimen of GUANO, and with some extracts in regard to it. These we handed to our obliging Professor of Agricultural Chemistry, Dr. DUCATEL, and from him we have obtained the "*Description of the Guano or Peruvian MANURE*," which follows the extract from Ulloa.]—*Ed. Am. Farm.*

GUANO DUNG.

Extract from "A voyage to South America by Don Antonio de Ulloa.—vol. 2, page 99.

"The land in the jurisdiction of Chancay, like the other parts of the coasts of Peru, are manured with the dung of certain sea birds, which abound here in a very extraordinary manner.—These they call Guano, and the dung guano, the Indian name for excrements in general. These birds, after spending the whole day in catching their food in the sea, repair at night to rest on the island near the coast; and their number being so great as entirely to cover the ground, they leave a proportionable quantity of excrement, or dung. This is dried by the heat of the sun into a crust, and is daily increasing, so that notwithstanding great quantities are taken away, it is never exhausted. Some will have this Guano to be only earth endowed with the quality of raising a ferment in the soil with which it is mixed.—This opinion is founded on the prodigious quantities carried off from those islands, and on the experiment made by digging or boring, by which the appearance at a certain depth was the same as at the superficies; whence it is concluded, that the earth is naturally endowed with the heating quality of dung, or guano. This would seem less improbable, did not both its appearance and smell prove it to be the excrement in question. I was in these islands when several barks came to load with it; when the insupportable smell left me no room to doubt of the nature of their cargo.—I do not, however, pretend to deny, but that it may be mixed with earth, or that the most superficial part of the earth does not contract the like virtue, so as to produce the same effect.—But, however it be, this is the manure used in the fields sowed with maize, and with proper watering, is found greatly to fertilize the soil, a little of it being put close to every stem, and immediately watered. It is also of use in fields of other grain, except wheat and barley; and, consequently, prodigous quantities of it yearly used in agriculture."

NOTE.—The Chancay here spoken of, lies along the coast adjoining, and to the north of Lima.—The specimens of guano dung furnished you was produced at the port of Molienda, a small village a few miles to the north of the river Tambo, in the jurisdiction of Moquehua. This dung is obtained from the small roosting islands of the sea birds, all along the coast; and is of two colors and qualities,—the *red* is considered the best, the *white* not so good. The white guano is found in great abundance on the island of the village of Iquique, in latitude 20° 12′, S.

Amongst other valuable and curious things brought by Midshipman *Bland* from the Pacific Ocean, was a small quantity of that celebrated manure, *guano dung*, possessing such astonishing fertilizing properties—Of this article he furnishes the following notice:—

DESCRIPTION OF THE

GUANO; OR, PERUVIAN MANURE.

This substance to which the naturally sterile coasts of Peru, owe their fertility, had already been partially descri-

bed by Don Ulloa. Messrs. Humboldt and Bonplan have, however, more recently, by communicating specimens of it to Fourcroy and Vanquelin, furnished an opportunity of becoming satisfactorily acquainted with its nature. The analysis of it, made by the latter named chemists, and which is detailed in the 56th vol. of the *Annales de Chienie*, gave the following result:—

1st. A fourth part in weight of uric acid, partly saturated with ammonia.

2d. Oxalic acid, partly combined with ammonia and potash.

3d. Phosphoric acid, united to the same bases, and to lime.

4th. Small proportions of the sulphates and muriates of potash and ammonia.

5th. A small proportion of fatty matter.

6th. Small proportions of silicious and feruginous sands.

In Rees' Cyclopedia, the guano is described as a yellowish brown earthy substance, *without taste*, and of a smell resembling that of castoreum.—The specimen furnished by Midshipman Bland, has a *saline taste*, and a slight castoreum odour. Expose it to the fire, it blackens and emits strong ammoniacal fumes, as observed by Sir H. Davy.

It is found in strata of from 50 to 60 feet in thickness, which are worked on the surface, in the same manner as iron ochre mines. The island of Chinche, near Pisco, on the more southern coast of Peru, (no where, however, observed Mr. Humboldt, but between the 13th and 21st degrees of S. lat.) and the small islands of Ilo, Isa, and Arica, furnish it in abundance. These islands are visited by immense flocks of birds, principally of the heron and flamingo genus, (*Ardea it Phœnicopterus.—Cuv.*) that tarry there through the night. Hence the guano has been considered as produced entirely by them; but it can scarcely be possible, that such immense strata, should have been accumulated in that way alone. The question there suggested by Mr. Homboldt, is, whether the guano might not be considered as the productions of one of the revolutions of the earth, and classed with the formations of coal, and fossil wood? Mr. Guido Ricci has consequently proposed to give it a place in our Mineralogical systems, under the name of *Ammoniaque Uratée*, (Urate of Ammonia,) or at least to consider it as a natural product.

From the composition of the guano, it is easy to conclude its fertilizing properties, and it must be judged to be a powerful manure. Sir H. Davy observes, that it requires water for the solution of its soluble matter to enable it to produce its full beneficial effect on crops. Its principal application is to corn; but it must be used in small quantities, its causticity being fatal to the roots of the plant, when used too freely.

Messrs. Humboldt and Bonplan to whom, as before observed, we have been indebted for the means of ascertaining its value, further remark:—that the inhabitants of Chancay, engaged in the transportation of this manure, perform the voyage to and from Chinche, in twenty days, in boats called *Guaneros*. Each boat containing from fifteen hundred to two thousand cubic feet of guano.—The price of the vanega, (1 3-5 bushels) at Chancay, is four francs (80 cents); at Arica, 15 francs, ($3); making it, as may be perceived, a very profitable business. It is said that the strong ammoniacal smell, which the guano emits, would cause those unaccustomed to its neighborhood, to be incessantly sneezing.

It may be here observed, that the dung of pigeons, and of other birds, which bears much analogy to the guano, is known to form a very valuable manure. Hence, in France, it has been proposed to use, for the same effect, those immense accumulations of bat dung, which occur in the extensive caves of the Department of Yonne.—In this country, the soil under the wood, where great flocks of the wild pigeons roost, must be highly impregnated with their dug, and would no doubt, form an excellent manure.

THE DISEASE OF WHEAT—PREVENTIVE MEASURES.

In his excellent Report, as Commissioner of Patents, Mr. Ellsworth alludes to the methods of preventing the disease and attacks to which the wheat crop is exposed. He says that the time when the field is struck with rust, seems to be just at the time of ripening. A remarkable fact on this subject is stated in a report to the New Jersey Agricultural Society. An extraordinary field of wheat, supposed to be out of danger, on a hot day became drenched by a sudden shower, which came on between 1 and 3 o'clock, P. M. All was still; and on the passing away of the shower, the sun came out intensely hot. The owner went into his field to examine his wheat, which he found much pressed down by the shower; he immediately perceived a continued ticking, or snapping noise, in every direction. The straw was fine and bright; but, on examining it, he found it bursting in short slits one quarter of an inch long, and the sap exuding from it. A day or two after, the whole field was darkened with rust, and the wheat nearly ruined. Another instance of the same kind is also related. The conclusion stated is—that the loss of the sap, running out and becoming dried on the straw, occasioned the rust. The ancient Greeks and Romans attributed rust to the effect of the weather on the grain, as has been mentioned above, and had a prayer to the supposed Rubigo for warding off the disease.

He says that to avoid the fly, manuring high at seed-time and sowing late, were resorted to. But that this was attended by mildew and rust. The best means of prevention are, first, a good, dry loamy soil, well prepared by cultivation, and not too recently manured. Secondly, cover the seed about two inches deep, either with drill or plough, that it may have good hold of the soil, and not be thrown out by winter frost. Alluding to the various expedients to protect wheat from smut, he says:

"One directs the wheat, after being thoroughly washed, to be soaked 10 or 12 hours in salt water, as strong as it can be made. It is further said that no injury will result if it lies in the brine for several days, provided it can be in a cool place. After thus soaking it, let it be limed. Another person recommends that the seeds, when placed in the brine, be stirred up thoroughly, so that the light seeds may rise to the surface, and be skimmed off; afterwards, that the brine be drained into a tub, and the seed thinly spread on the floor, and sifted with quicklime, at the rate of one gallon to a bushel; and, after carefully stirring the lime through the seed a few times, it is allowed to remain a few hours, and then sown. The seed which underwent the perfect cleaning gave a return of pure wheat—and that which was sown in its natural state was infected with smut, and had a mixture also of chess.

"In a Northumberland report on agriculture, it is stated that Mr. Culley, who grew annually from 400 to 600 acres of wheat, had but one instance of smut in 40 years, and this was when the wheat was not steeped. Another experiment on seed, in which were a few balls of smut—one third being steeped in chamber lie, and limed; one third steeped in the same, and not limed; and the remainder without steeping or liming; and the result was, that the seed pickeled and limed, and that pickeled and not limed, were free from smut, but the other had smutty ears in abundance. Another experiment was tried, by taking a peck of very smutty wheat, of which one-half was sown in its natural state, the other half washed as clean as possible, in three waters, soaked two hours in brine strong enough to bear an egg, and dashed with lime: the result was, two thirds of the unwashed was smutty, but of the pickeled and limed seed there was a full crop, without a single ear of smut. A similar experiment, somewhat varied, is the following. Of four sacks of smutty wheat, one was soaked in strong brine only; one prepared with lime only; one was soaked in strong brine, and then lay in lime all night; and the fourth was sown without anything; the result was, where brine only was used, now and then there was a smutty ear, but not many; where lime only was used, there was about the same quantity of smut; where lime and brine were used, not a single smutty ear could be found; and where nothing was used, it was a mass of smut. In another experiment, however, mentioned in the Southern Planter, wheat salted at the rate of a quart of salt to a bushel succeeded effectually in preventing smut.

WORMS ON CABBAGE.—These pests of the garden may be destroyed by taking off one of the large lower leaves of the cabbage, about sundown, and laying it on the top of the plant, "backside down." Take it off early in the morning, and the whole or a large part of the worms of that cabbage will be on it, and may be destroyed at pleasure. So says W. Chandler, in the Tennessee Agriculturist.

DANA'S PRIZE ESSAY—The portion of Dana's Prize Essay on Manures, in to-day's paper, will be treasured by every intelligent reader. It is, in our humble opinion, worth a year's subscription. It demonstrates with great clearness the relative value of the dung of particular kinds of cattle, in connection with, and under, different circumstances of feeding, and unfolds with great perspicuity and force those substances which contribute to the formation of fat, blood and flesh. In a word, it embraces the whole philosophy involved in the subject. We bespeak for it the attentive perusal of every one, who feels ambitious to be acquainted with matters of the profoundest interest to the calling of the husbandman.

PROTECTION AGAINST DROUGHT.

The best protection against drought that can be practiced to a great extent with advantage, is stirring the earth frequently to keep it light, loose, and mellow. We have made experiments and observations on this subject, and have observed the good effects of stirring the soil in a dry time in a most striking manner. When land that had not been ploughed nor stirred in any way, was dry down ten inches, and there scarcely any moisture could be perceived, land by the side of it, ploughed and frequently hoed, but not manured to give it any advantage, was moist within a few inches of the top in a very severe drought.

In time of a drought last summer we observed that a number of farmers believing in these principles, were acting on them as they thought, but were making a wrong application of their labors. They ploughed between the rows of their corn and potatoes and then drew the earth around the plants making high hills. The consequence was that the roots of the plants would become exposed between the rows and the hot sun and dry down still further, the loose earth being removed; and covering up the dry baked earth around them the hills would not invite up the moisture in those places. In such cases we took the hoe and dug up and pulverized the soil over the whole surface, leaving it level, giving a specimen of the course that we had pursued with marked success, and though the system was acknowledged to be reasonable, yet some of them could not be induced to leave the old method which they had long pursued, and so they went on losing their labors or rather employing their labor to the injury of their crops, so far as drought was concerned.—*Boston Cultivator.*

BOTS IN HORSES.

Messrs. Editors:—Passing, not longsince, through one of the principal manufacturing villages, in the interior of Cumberland county, my attention was arrested by a large concourse of persons who had gathered around a building to see a poor horse die of the *Bots!* A very amusing circumstance surely, but one of such common occurrence, in these days, that to me, at least, has ceased to be a matter, either of much curiosity or surprise. I forward you the following recipe in the hope that it may prove a benefit to many:—To make the bot let go his hold, give the patient a quart of molasses, or dissolved sugar, with a quart of sweet milk. In 30 minutes you will find him at ease. Then pulverize an eighth of a pound of alum; dissolve in a quart of warm water, and drench your horse. After two hours or less, administer one lb. salts, and you will effect a cure. I have never known the remedy fail.

Maine Cult. Yours, &c.

SALTING HORSES.

A curious fact is mentioned in Parker's Treatise on Salt:

"A person who kept sixteen farming horses, made the following experiment with seven of them which had been accustomed to eat salt with their food; lumps of rock salt were laid in their mangers, and these lumps, previously weighed, were examined weekly to ascertain what quantity had been consumed, and it was repeatedly found that, whenever these horses were fed on hay and corn, they consumed only about two and a half or three ounces per day, but that when they were fed with new hay, they took six ounces per day."

This should convince us of the expediency of permitting our cattle the free use of salt at all times; and it cannot be given in so convenient a form as rock salt, it being much more palatable than the other in a refined state, and by far cheaper. A good lump should always be kept in a box, by the side of the animal, without fear that it will ever be taken in excess.—*Southern Cultivator.*

From the American Agriculturist.

The Cow-pea.

The Cow-pea as Fertilizer, its culture and value for Fodder.—I am convinced, from the limited experiments I have as yet had it in my power to make, that the cow-pea is one of the best and certainly the cheapest fertilizer that we can employ in the South. By some it is looked upon as an exhausting crop, nor is it to be wondered at that it should be so. Land that is tolerably poor is of preference selected, as there the pea goes less to vine, and yields more abundantly; and just before frost, the entire plant, root and all, is pulled up and cured for fodder! I was forced to do this once, but will not try it again. Even then, however, the land was somewhat improved, as the leaves had all dropped before I felt forced to skin so deeply, by the prospect of being short of fodder, and the ground was so effectually shaded all summer.

I will now suggest some experiments, which, if I live another year or two, I shall try. I am unfortunately situated like too many of my brother planters, and have little leisure for anything but cotton making. Where a planter aims at producing, to as great a certainty as possible, as much cotton as his hands can pick, up to Christmas day, he has no time for other occupation. If we could be satisfied with as much as could be saved before the 1st December, something could be done in the way of improvement. The making of sufficient manure for a large plantation, and hauling it out when made, seem heavy tasks, and they are so. Yet it would certainly be just as easy to make and apply three times as much manure on a plantation working thirty hands, with of course teams in proportion, as on one of ten hands. The waste of valuable manure on plantations is very great, and it will be many years before much improvement is effected.

I propose to select ten acres of poor land, which I will have well plowed, and as early as 1st to 15th March planted in cow-peas sufficiently close to give a good and early covering to the ground. Peas planted early produce more vine and fewer seed than when planted late. So soon as they begin to blossom freely, I shall have them turned completely under, and another crop of peas immediately planted. The second crop I intend shall stand to ripen, when I will turn hogs upon them, but no cattle, so that the leaves and vines will be almost all returned to the soil. One half the lot I will have turned over deeply in the fall, the other half in the spring, planting one half of each five acres in cotton, and the other half in corn. It was my intention to experiment in this way this season, but circumstances render it impossible to any extent. That such a course will do more for our land here than the turning under of a crop of clover will in the north, is obvious. The quantity of vegetable matter on the ground, other things being equal, is vastly greater—I should say some three fold; the roots are few, one long tap-root only, with a few slight fibres; the vines and leaves large and extremely succulent, completely shading and protecting the soil from the sun; and the plant is of but very few weeks growth. The cow-pea requires little or no culture, which is in favor or its value for this purpose—a bull-tongue plow run along each side of the row will suffice, though even this may be dispensed with. I would not wish to have it thought that I am advancing what I suppose to be a new idea, in advocating the value of this plant for this purpose. It has already been discussed in all its bearings, but has been *but little tried*. My object is to induce a few such trials as that I have proposed. If our agricultural societies would give prizes for the best conducted and most successful experiments of the kind, they would do infinitely more good than by the course they at present pursue.

As a fodder-making crop, the cow-pea is invaluable. It is, like clover, difficult to save, but when saved, of greater value. This I have tested. I had a plan for gathering and saving pea-fodder, suggested to me the other day, that is well suited to the cotton plantation, and which I shall practice when the vines are sufficiently matured, and plentifully covered with their long, well-filled pods; namely, run a heavy, iron toothed, two-horse harrow over them, and as the harrow becomes loaded with vines, lift it up and pass on. By this means, the vines are rapidly gathered into piles, with a little dirt perhaps among them, which will shake out in curing. They are then put up in cord peas in the usual way. You must bear in mind, when you see such a mode recommended for harvesting a crop, that to gather the cow-pea is impossible; to cut them with the hoe or sickle, a slow, troublesome business; and then the most convenient and common practice is to pull them up, root and all, by hand. Their growth resembles that of none of your northern peas, but is rather that of a giant clover, with vines of any length under say 8 to 15 feet. The pods are very numerous, generally in pairs, and contain each some 15 to 20 peas, which afford most excellent and nutritious food for man and beast. One of the most extensive and experienced planters in the adjoining county of Jefferson, killed upward of 700 head of hogs for the supply of his own family, (and had not enough then,) which were fattened entirely in the pea-fields.

Thomas Affleck.

Ingleside, Adams Co., Miss., March 5, 1844.

Great waste of Manure.—Not upon our land, for although injudicious application may be considered a species of waste, yet there is not so much to be complained of in regard to the application as the *non*-application of manures. The waste is in not saving, in not accumulating, every thing of the kind which will fertilize the soil from which we take our crops. We know from our own personal experience and observing others, that twice as much—nay, three times as much manure may be saved—we will say saved—not manufactured, but saved, as there now is. How many sink spouts are there in the country that are almost hourly pouring out their contents, to be floated away, *no where in particular*, and "to waste their fragrance on the desert air"? How many stables are there in the country where there is not even the shadow of a fixture to save the urine and liquid particles of manure which are continually made there? Nearly all the barns are without sheds for manure. All that the cattle make during housing time is thrown out of the windows, where it is exposed to the weather. The arrangement seems to be the very best in the world to dissipate the valuable parts and leave the poorest. It is, first a layer of manure—then a layer of snow—then manure—then a heavy rain—then a strong wind and sunshine—then manure, and so on. In the Spring we shovel in what there is left us, and which is of such strong and stubborn material that the combined attacks of snows and rains, and freezing and thawing, and sunshine and winds, could not overcome, and this we apply to nourish our crops, and to supply the delicate and fine vessels of the rootlets with nourishment. Isn't this admirable? A little care and attention, and a small amount of labor, would enable the farmer to preserve and apply his manure in a much more judicious and saving manner. We do not hesitate to say that we have found by experience, that when stable manure is housed until it is applied to the earth, it is one third better—more efficacious, because more full of the necessary materials for feeding vegetation. Liquid manures are seldom, if ever, used among us. In Flanders it is a very common thing for a farmer to pay ten dollars (forty shillings of their money) for the urine from a single cow during the year. And what is the result of such saving? Why this: More human beings are comfortably supported on a square mile than in any other country on the globe, unless it may be China, where equal attention is paid to these savings. There are various modes adopted for saving these things. One is to have cisterns into which it may run. The cheapest mode is to have some kind of compost which will absorb it. We find in the last New England Farmer a communication from Dr. Jackson, giving a very cheap but excellent mode of concentrating and preserving these fluids. His plan is the following. "Take 20 measures of dry peat and one of ground gypsum, and mix them together. Place barrels half full of this mixture in places where urine may be collected, and it will be found that the salts and ammonia of many barrels of urine will be consolidated in this mixture, without giving the slightest odor, or being in any way offensive, for the salts are taken up, and the carbonate of ammonia, formed by decomposing urea, is immediately absorbed.

"This method of getting rid of a nuisance and of consolidating a valuable liquid manure, full of the most useful salts, ought to receive attention. A mixture of peat or swamp muck and gypsum (plaster of Paris) will also serve to absorb all the disagreeable gasses of vaults, which will be converted into fertilizing compounds with the sulphuric acid of the gypsum and the organic vegetable acids of the peat."

Here, then, is a very simple but at the same time very efficient mode of securing the valuable ingredients of the sink and other disagreeable but *necessary* places about our premises; one which every farmer can adopt. A small pit, made with a covering to keep out sun and rains, filled with the above materials, would be a little mine of wealth to every farmer, and we may say a mine of health too, for it would swallow up all the pestiferous and noxious gases which must inevitably arise from the decomposition of such offal.—*Maine Farm.*

From the Boston Cultivator.

MANURE.

Messrs. Editors:—The success of farmers depends very much on a judicious collection of materials to enrich their fields. Every substance can in some way be applied to the increase of vegetation. But it is unwise for us to spend our strength in gathering the least efficacious materials and neglecting such as abound in the appropriate food of plants. We admit the position as correct, that on every farm there is a sufficiency of materials convertible into compost manure, yet through want of care and judgement in selection, much labor is bestowed to very little purpose. Our doctrines are either misunderstood or wonderously misapplied. Sand and gravel, which have been often and very properly recommended as useful dressing for cold, tenacious and clayey soils, we see carted in large quantities, on soils already sufficiently porous. This may not be absolutely lost labor, because almost any mixture of soils will be attended with some benefit, but sand or gravel in loose and black soils, cannot in any quantities supply the place of stimulating manures. With stimulating manures, we should incorporate as much humus and geine as is practicable. This can be done to a great extent on any farm, by following the advice of one of your intelligent correspondents, in gathering the vegetable and earthy matters which accumulate on the borders of fields and against stone walls.

We were sorry to learn that the same correspondent, who thinks so highly of the value of accumulations in open fields, had experienced an unfavorable influence on the trees, when he went into the forest for similar materials. The opinion, that we injure the forest when we take the surface soil for manure, so strongly expressed by one of our best farmers, and endorsed by the Editor of a respectable agricultural paper, will be likely to discourage very many from going to the forest for materials to increase the compost heap. If it be true that the forest is greatly injured by such an operation, it certainly ought to be discouraged. In our experience there has been no apparent injury, but rather benefit; therefore, we may properly ask a review of the opinions that have been expressed. No doubt the soil may be taken in the forest to a depth that will expose too many of the roots of the trees to the direct action of the sun, or deprive them of the required food. This would be closer paring than has ever been recommended. It may be that your correspondent's laborers extended the shovel somewhat deeper than he intended they should, or operated too near the bodies of the trees. Vegetable matter in an incipient state of decomposition is what we recommend to be taken from the forest, and feel confident it can be done without the least injury to the trees, sometimes with manifest benefit.

Thirty-five years ago, a collier without our knowledge went into a thrifty grove of young oaks and cut a quantity of floats for his pits: on discovering what was done, a strong reprimand was given, and the supposed injury to so fine a growth of young wood lamented. The collier with a smile, replied that time would show benefit instead of injury. If the particular spot where he dug can now be distinguished it will be by the increased size and number of the trees. The operation of digging floats requires the removal of more soil than we should think of taking for the compost heap. A practical result first induced the recommendation to go into the forest for materials to make manure. Is there any sound theoretic maxims opposed to such a recommendation? The objection that the trees are robbed of their appropriate food, may at the first view seem well founded. But all its force is lost when we advert to the well known fact, that every sort of vegetation left to decay in the place of its growth, will entirely run itself out. Cease laboring on the cultivated fields, let whatever grows there remain, and ere long weeds and grass will give place to bushes and briars, and these in their turn to forest trees.—Leave the forest to the course of nature and when a growth of oak decays and falls down, pine or some other kind of trees will spring up. Does not this law in nature abundantly justify us in taking vegetable matters from the forest to enrich plants in our fields?

M. A.

Pembroke, June 1st, 1844.

SALT FOR BUTTER.—It cannot be too often urged upon our dairy women to use none but the best of Rock Salt or Salt made from the Salina Springs in salting their butter, the Liverpool and American Salt will not save butter, and hence the complaint of rancid butter, and poor cheese.

Good salt is as cheep as poor—nay, cheaper, and skilful dairy-women will use none other than the best; more depends upon the salt used than most people are aware of, and it is now an established fact that Liverpool or American salt will not make good butter and cheese, and that Turks Island and St Ubes, ground or pounded will. Butter salted with the latter will sell for several cents on a pound more than when salted with the former kinds.

H. COLLAMORE.

Rembrook, June, 1844. *Boston Cul.*

CORNSTALK FODDER—Several articles in favor of sowing corn broadcast for fodder, have been published in our paper, and we have seen many other favorable notices of the plan. From five to eight tons of dry fodder may be obtained from the acre, and both cattle and sheep are said to prefer it to the best of hay. Sow from two to three bushels to the acre; and the best time for cutting is said to be soon after the spindle makes its appearance.—*Farm. Gazette.*

CHEVIOT SHEEP.—Count de Gourcey saw a splendid flock of these sheep, on a poor and rough mountain pasture in Sutherland. He was much surprised to see these horrible mountains and pastures, stocked with such fine animals, yielding on an average 5 lbs., of long beautiful wool—wethers at three and a half years old, without having eaten any other thing but what is found in these wilds, weighing alive 200 lbs. What I have seen in this journey, makes me more convinced than ever that the Cheviot breed is one of the highest merit, since they live and fatten on such land, and that too with no other food besides what these wilds produce.

THE CROPS IN SOUTH CAROLINA.

Extract of a letter, dated

Jeffries Creek, June 10th, 1844.

I have melancholy news to write in relation to the Cotton crops in this neighborhood; and I may say, so far as I have heard, in this region of country; about a fortnight or three weeks since, our prospects were never more flattering, but in this short space of time, the Aphis Gossypii, or Cotton Louse, has attacked our Cotton in such numbers, that without some speedy arrest of their ravages should take place, there is a strong probability, from present appearances, that many crops in this neighborhood will be entirely destroyed; and none that I have heard from, will escape extensive injury. I have ploughed up about one-fourth of my own crop and planted it in Corn, and in the balance of my farm there can scarcely be a stalk of Cotton found but what is stocked with the insects. I have heard from most parts of this District, and from a portion of Darlington, and complaints from this insect are almost universally heard of. For the last few weeks, we have had very fine seasons, and the corn crops look remarkably well, excepting some farms where the Grasshopper has done extensive injury in the early part of the season.—*Farmers' Gazette.*

DEW.—Professor Johnston says that the dew, celebrated through all times and in every tongue for its sweet influences, presents the most striking illustration of the agency of water in the economy of nature, and exhibits one of those wise and beautiful adaptations by which the whole system of things animate and inanimate, is fitted and bound together. All bodies on the surface of the earth radiate or throw out rays of heat, in straight lines, every warmer body to every colder; and the entire surface itself is continually sending rays upward through the clear air into free space. Thus on the earth's surface all bodies strive, as it were after an equal temperature, and equilibrium of heat, while the surface as a whole, tends generally towards a cooler state. But while the sun shines this cooling will not take place, for the earth then receives more heat in general than it gives off: and if the clear sky be shut out by a canopy of clouds, these will arrest and again throw back a portion of the heat, and prevent it from being so speedily dissipated. At night, then, when the sun is absent, the earth will cool the most; on clear nights more than when it is cloudy, and when clouds only partially obscure the sky, those parts will become coolest which look towards the clearest portion of the heaven. Now, when the surface cools, the air in contact with it must be cool also; and like warm currents on the mountain side, must forsake a portion of the watery vapor it has hitherto retained. This water, like the floating mist on the hills, descends in particles almost infinitely minute. These particles collect on every leaflet, and suspend themselves from every blade of grass in drops of "pearly dew." And mark here a beautiful adaptation. Different substances are endowed with the property of radiating their heat, and thus becoming cool with different degrees of rapidity, and those substances, which in the air become cool first, also attract first and most abundantly particles of falling dew. Thus in a cool of a summer's evening, the grass plat is wet while the gravel path is dry; and the thistle pastute and every green leaf are drinking in the descending moisture while the naked land and the barren highway are still unconscious of its fall.

BALTIMORE MARKET, June 24.

Beef, Balt. mess,	8¼a	Butter, Glades, No. 1,	13a	Tobacco—The market during the week has been a little less animated, but still a fair business in Md has been done and prices are well maintained, particularly for the good and fine descriptions. The common sorts are as heretofore rather difficult to sell. We continue to quote inferior and com. 2.50 a3, middling to good 4a6, good $6.50a8, and fine 8a14. The accounts from the tobacco raising districts of Md are very favorable. Plants were abundant, the crops were set out early, and the weather since has been very propitious; a fair prospect of a large crop of good quality is presented. The demand for Ohio fell off in some degree, though there were sales of parcels of better sorts. We continue our quotations, viz.: com. to midd. 3a4.50, good 5a6, fine red & wrappery 6.50a10, fine yellow 7.50a10—and ex. wrappery 11a13—The inspect's of the week comprise 1005 hhds Maryld, 665 Ohio, 4 Ky. and 1 Va. Total 1675hs. *Cattle*—560 head beef cattle offered, of which 399 sold at $1.50a2.50 per 100lbs. on the foot as in quality, equal to 3a4.75 net, the balance gone North.
Do. do. No.1,	6¼a7	Do. do. 2,	7a11		
Do. prime,	5a	Do. do. 3,	5a7		
Pork, mess	9¼	Do. Western 2,	6a		
Do. No. 1	9¼a9¾	Do. do. 3,	5a6		
Do. prime	7¼	Lard, Balt. kegs, 1,	6¼a7		
Do. cargo,	a	Do. do. 2,	none		
Bacon, hams, Ba. lb	6¼a7	Do Western, 1,	a6¾		
Do. middlings, "	5a5¼	Do. do. 2,	5a5¼		
Do. shoulders, "	4a4¼	Do. do. bls 1,	6a6¼		
Do. asst'd, West.	4¾	Cheese, casks,	6		
Do hams,	6a7	Do. boxes,	5a8¼		
Do. middlings,	a5	Do. extra,	12a15		
Do. shoulders,	4a				
COTTON—					
Virginia,	9a10	Tennessee, lb.			
Upland,	9	Alabama,	11a12		
Louisiana,	11¾	Florida,	10a12		
North Carolina,	10a11	Mississippi			
LUMBER—					
Georgia Flooring	12a15	Joists & Sc'ling, W.P.	7a10		
S. Carolina do	10a12	Joists & Sc'ling, Y.P.	7a10		
White Pine, pann'l	25a27	Shingles, W. P.	2a9		
Common,	20a22	Shingles, ced'r,	3.00a9.00		
Select Cullings,	14a16	Laths, sawed,	1.25a 1.75		
Common do	8a10	Laths, split,	50a 1.00		
MOLASSES—					
Havana, 1st qu. gl	30a31	New Orleans	31a		
Porto Rico,	29¼a30	Guadaloupe & Mart	26a28		
English Island,		Sugar House,	28a36		
SOAP—					
Baltimore white,	12a14	North'rn, br'n & yel.	3¼a4¼		
brown & yell'w	4¼a5¼				
TOBACCO—					
Common	2 a 3¼	Yellow,	8 a10		
Brown and red,	4 a 5	Fine yellow,	12a14		
Ground leaf,	6 a 7	Virginia,	4 a 9		
Fine red	6¼a 8	Rappahannock,			
wrappery, suitable		Kentucky,	3 a		
for segars,	8a13	St. Domingo,	13 a11		
Yellow and red,	7a10	Cuba,	15 a36		
PLASTER PARIS—					
Cargo, pr ton cash	2.75a	Ground per bbl.	1.12a		
SUGARS—					
Hav. wh. 100lbs	9a10.50	St. Croix, 100lbs	7.00a8.00		
Do. brown	a7.50	Brazil, white,	a		
Porto Rico,	6.70a7.50	Do. brown,			
New Orleans,	6¼a6¾	Lump, lb. c.			
FLOUR—We quote					
Superfine How. st., from stores, bl.			$4.12a4.25		
Do. City Mills,			4.37		
Do. Susquehanna,			4.25a		
Rye, first			3.12a		
Corn Meal, kiln dried, per bbl.			2.62		
Do. per hhd.			11.75		
GRAIN—					
Wheat, white, p bu	1.00	Peas, black eye,	50a55		
" best Pa red	93a	Clover seed, store	$5.50a		
"ord. to pri. Md	85a90	Timothy do	2.a2.50		
Corn, white,	38a39	Flaxseed, rough st.	1.35		
" yellow Md.	42a	Chop'd Rye, 100 lbs.	1.25		
Rye, Md.	55a	Ship Stuff, bus.	20a		
Oats, Md.	28a30	Brown Stuff,	15a		
Beans,	100	Shorts, bushel,	10a		
FEATHERS—per lb.			29a		
COFFEE—					
Havana,	7 a 8	Java, lb.	10 a12		
P. Rico & Laguay.	6¾a 8	Rio,	6¾a7¼		
St. Domingo,	5¾a 6	Triage,	3¼a 4¼		
CANDLES—					
Mould, common,	9a10	Sperm,	32a33		
Do. choice brands,	10½	Wax,	60a65		
Dipped.	8a 9				

BALTIMORE CO. AGRICULTURAL SOCIETY.

At the annual meeting of the Society held at Govanstown, on the 20th day of October, 1843, the following resolution was adopted:

"*Resolved*, That such counties of Maryland as may form societies auxiliary to this, shall on the payment of fifty dollars to the Treasurer of this society, be admitted on equal terms as regards competition for premiums, if in the opinion of the Executive Committee, such an arrangement shall appear to be expedient."

The Executive Committee at a meeting held in Baltimore, Dec. 23d, 1843, having fully concurred in the above resolution, do cordially invite the farmers of the counties of the state to form auxiliary societies, and become competitors for premiums offered by this society. JOHN B. H. FULTON, Rec. Sec.

FOR SALE, THAT VALUABLE FARM & MILLS,

Known as the Mansion Farm of Dorsey's Lower Mills, situate 11½ miles from the city, on the Reisterstown turnpike, upon which it stands for half a mile, having the Westminster branch of the Susquehanna rail road within 900 yards of the dwelling. This Farm contains about 416 acres, 80 acres of which are in wood, the greater portion of the residue in a high state of cultivation, having had near 10,000 bushels lime put on it the last few years—the growing crop of wheat, rye, oats, &c. &c. looking remarkably well, the meadow comprising about 100 acres is prime land, which has recently been reset.

The improvements consist of a large and well built brick Mansion House, 60 ft. front by 40 ft. deep, exclusive of the back and side addition. A substantial large brick Barn, having stalled stabling underneath for 25 head of cattle, wagon and carriage houses, dairies, smoke-house, blacksmith's shop, corn houses, &c. &c.

A good brick GRIST MILL, with a comfortable stone Dwelling for the miller; the mill is in good order, and can grind 40 bbls. of flour per day, which quantity could be increased with a trifling expense.

An excellent SAW MILL has recently been double geared and capable of cutting 2000 feet per day; these mills have a good run of country custom, with an abundance of water at all seasons of the year, the fall of water being about 30 feet. Additional works might be erected at other sites on the premises.

This farm could conveniently be divided, having on the upper portion of it, in addition to the above improvements, a frame dwelling and log cottage, with a good barn and stabling. The whole property is in superior order and repair. The proprietor residing out of the state, is disposed to sell it for less than its value, on accommodating terms. Any person desirous of viewing the premises can do so by applying to the manager on the premises. For terms of sale and further particulars apply to

REYNOLDS & SMITH,
je 26 No. 40 N. Howard st.

POUDRETTE.

Of the very best quality for sale. Three barrels for $5, or ten barrels for $15—delivered free of cartage by the New York Poudrette Company, 23 Chambers stredt, New York. Orders by mail, with the cash, will be promptly attended to, and with the same care as though the purchaser was present, if addressed as above to

D. K. MINOR, Agent.

A supply shortly expected from the N. York establishment, by the single barrel, or larger quantity. For sale by

SAML. SANDS,
je 19 office of the Farmer, Baltimore st.

FARMERS! EXAMINE FOR YOURSELVES!

The well selected stock of Implements belonging to JAMES HUEY & CO. No 7 Bowly's wharf, Baltimore. Our stock consists of a large lot of PLOUGHS, SHARES, POINTS, and CULTIVATORS, which we will sell low to suit the times—among which rank the economical WILEY, and the MINOR & HORTON PLOUGH of the N York composition metal and manufacture—the share has a double point and edge, equal to two shares and points. We keep on hand all kinds of PLOUGHS, premium CORN SHELLERS, HAY & STRAW CUTTERS, Corn & Cob CRUSHERS, Horse RAKES, Corn and Tobacco HOES. ☞ Farmers and Planters on the Eastern and Western Shores may send their orders with confidence, as they will be attended to with promptness. We also keep GARDEN & FIELD SEEDS. Thankful for past favors, we hope to merit a continuance of the same. Agents for the above implements,

C. L. STEER, Market st. near the corner of Paca, Baltimore
E. & W. BISHOP, Bel-air market Baltimore ap 8

PORTABLE TUBULAR STEAM GENERATOR.

The undersigned, successors to the late firm of Bentley, Randall & Co. are manufacturing, and have constantly on hand a full assortment of the above Boilers, which within the last few months have undergone many improvements; we can now with confidence recommend them for simplicity, strength, durability, economy in fuel, room, labor and room, to surpass any other Steam Generator now in use. They are equally well adapt'd to the Agriculturist for cooking food for cattle and hogs, the Dyer, Hatter and Tanner for heating dyeing, to Manufacturers (both Cotton and Woollen) for heating their mills, heating sizing, heating cylinders, &c., to Pork Packers for heating water for scalding hogs and for rendering lard, to Tallow Chandlers for melting tallow by circulation of hot water (in a jacket,) to Public Houses and Institutions for cooking, washing and slop washing, and for many other purposes for all of which they are now in successful operation; the economy in fuel is almost incredible; we guarantee under all circumstances a saving of two thirds, and in many instances full three fourths—numerous certificates of the very first authority can be produced to substantiate the fact. We had the pleasure of receiving the premium for the best Steam Apparatus at the Agricultural Fair held at Govanstown in October 1843.

Manufactory, McCausland's old Brewery, Holliday st. near Pleasant st., Baltimore, Md.

RANDALL & CO.
Dec. 1 tf

GRAIN CRADLES! GRAIN CRADLES!

We mean what we say when we assert that A. G. MOTT, corner of Front and Forest sts. Old Town, near the Bel-air market, is now putting up, and has for sale the very best and cheapest article of the kind in the Baltimore market, and no mistake. Try them. je 19

GROUND PLASTER.

The subscribers is now engaged in the grinding of Plaster of Paris, of superior quality, and would respectfully inform Farmers and others that he is prepared to furnish it of the best quality at the lowest market price, deliverable in any part of the city, or on the Union Rail Road, near the Mount Washington, or at the office No. 5 Bowly's wharf. Orders would respectfully solicited.

E. B. CHAPPELL, or
WM. L. HOPKINS, Agent.

GUANO.

A fresh supply of Guano, just received and for sale by the bag, containing from 150 to 220 lbs.

SAMUEL SANDS,
May 15 at the office of the American Farmer.

Pulverization.  *Decomposition.*

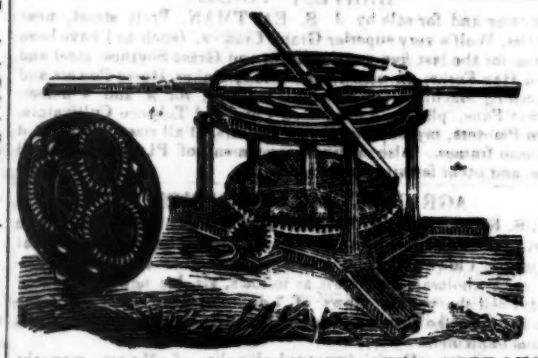
A. G. MOTT,

Corner Ensor and Forest streets, Baltimore, sole agent for the sale of "THE BOSTON CENTRE DRAUGHT PLOUGH," Prouty and Mears' self sharpening patent, with new patent gearing.

By this admirable arrangement, the labors of man and team are lessened one half, while the power and steadiness of draught obtained are so great that any depth of furrow is broken up, pulverized, and carried completely over, with perfect ease and facility, and the precision of the spade.

Prices from 7.50 to 13 dollars, with extra point and share. No extra charge for the new gearing. Castings always on hand.

"Spade labor, the perfection of good husbandry"
ap 17 tf



MARTINEAU'S IRON HORSE-POWER IMPROEVD

Made less liable to get out of order, and cheaper to repair, and at less cost than any other machine.

The above cut represents this horse-power, for which the subscriber is proprietor of the patent-right for Maryland, Delaware and the Eastern Shore of Virginia; and he would most respectfully urge upon those wishing to obtain a horse power, to examine this before purchasing elsewhere; for beauty, compactness and durability it has never been surpassed.

Threshing Machines, Wheat Fans Cultivators, Harrows and the common hand Corn Sheller constantly on hand, and for sale at the lowest prices.

Agricultural Implements of any peculiar model made to order at the shortest notice.

Castings for all kinds of ploughs, constantly on hand by the pound or ton. A liberal discount will be made to country merchants who purchase to sell again.

Mr. Hussey manufactures his reaping machines at this establishment.

R. B. CHENOWETH,
corner of Front & Ploughman sts. near Baltimore st. Bridge, or No. 20 Pratt street. Baltimore, mar 31, 1841

HUSSEY'S REAPING MACHINES.

HEMP CUTTERS,
CORN & COB CRUSHERS,
CORN SHELLING and HUSKING MACHINES, &c.

Made to order and kept for sale by the subscriber,

Ap 17 OBED HUSSEY.

AYRSHIRE BULLS.

Several young Bulls for sale, of this valuable dairy stock; they are from stock selected with great care in Scotland, for a gentleman of this vicinity. One of the bulls is one year old—his appearance is impaired by an injury received in his hip from another bull, but not of a nature to prevent his being fit for service. Price $50 deliverable in this city. One other Bull, 4 months old, another 1 month old, dams very superior milkers: the dam of the younger gives when fresh between 7 and 8 gallons a day.

Likewise a 15-16 Durham bull Calf, 4 months old, sired by the celebrated bull "Washington Irving," a fine, handsome calf. Either of the calves can be had for $30. Call on S. Sands, at this office. je 12

FULL BRED DURHAM BULLS.

FOR SALE—3 full bred DURHAM BULL CALVES, from one to three months old—sired by an imported bull Magnum Bonum—who took the premium at the two last cattle shows. Enquire of

SAMUEL SANDS.

HORSE POWERS AND CORN CRUSHERS.

The subscriber has for sale the above Implements which he can recommend to all purchasers as being SUPERIOR ARTICLES. They are made with a view to strength, durability and efficiency, possess great power, are constructed upon the very simplest principles of mathematical exactitude, and are calculated to do as much work as the largest farmer can desire, and being free from complication, are not easily put out of order, and easy of repair. For proof of their intrinsic value, the subscriber refers to the following certificate from one of our most intelligent practical farmers, who combines with a knowledge of farming that of machinery, and is every way competent to pass a correct judgment.

GEORGE PAGE, Machinist,
West Baltimore st. Baltimore.

Orders and letters of inquiry, POST PAID, will be promptly attended to. feb 14

I hereby certify that I was one of the committee on Agricultural Implements and Machinery at the last fair of the Baltimore Co. Agricultural Society—that I attended the first day of examination but not the last: that after a full and fair examination of all the other machines of similar kinds, and an interchange of opinions among the judges, it was determined by a vote of 4 out of the 5 judges, to give Mr. GEORGE PAGE the first premium on his CORN and COB CRUSHER and HORSE POWER, they each being considered very superior, both in power and operation, as well as durability to any others on the ground. It was universally admitted, that the Corn and Cob Crusher could do twice as much work as any other machine of the kind on the ground—and I must confess, that I was both mortified and surprised, to find by the award of my co-judges, that they had changed their opinions after I left, and it had been agreed upon to award the above premiums to Mr. Page by so decided a vote as 4 to 1, that they should afterwards change that determination after I had left without consulting me is a like a matter of surprise and mortification. ABNER LINTHICUM, Jr.

JAMES MURRAY'S
PREMIUM CORN AND COB CRUSHERS.

These already celebrated machines have obtained the premium by a fair trial against the other Crushers exhibited at the Fair held at Govanstown, Balt. co. Md. Oct. 18th, 19th and 20th, 1843, and the increased demand enables the patentee to give further inducements to purchasers by fitting an extra pair of grinders to each machine without extra charge. Prices $25, 30, 35, 40, 45.

ALSO, small MILLS, which received a certificate of merit, for $15.

I have also superior CUTTING BOXES, such as will bear inspection by either farmers or mechanics.

Also, Horse Powers, Mills, Corn Shellers, Mill and Carry-log Screws, small Steam Engines, Turning Lathes, &c. &c.

Also, a second hand Steam Engine, 16 horse power, and the works for two Saw Mills.

Any kind of Machine, Model or Mill-work built to order, and all mills planned and erected by the subscriber, warranted to operate well.

☞ Orders can be left with J. F. Callan, Washington, D. C.; S. Sands, Farmer office; or the subscriber,

Mr. Abner Linthicum, jr., and all Machinests are invited to a fair trial of Grinding against my Corn and Cob Crushers, and if I do not do more work, taking the power, quantity, and quality into consideration, I will give them my machine gratice.

Patent Rights for sale by the subscriber.

n 8 JAS. MURRAY, Millwright, Baltimore.

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The subscriber is authorised to sell the following thorough bred and very superior animals, the pick of the celebrated herd of S. Canby, esq. of Wilmington, Del. viz.

BEAUTY, MABEL and LOUISA, cows, the latter will calve in about a month—the two last could not have been purchased at the price now asked for them when 1 month old, and they are considered by Mr. Canby the best he ever bred. Price $100 each.

Likewise, two young BULLS, PRINCE and OSCAR, from 1 to 2 years old, also 100 dolls. each; and 3 or 4 younger animals, low in proportion. Mr. Canby paid 200 dollars for Beauty when a heifer. Mr. Canby's present arrangements being such as to make it requisite for him to part with his blooded stock, the above, which are the choicest thereof, are put at nearly half the price they have been hitherto held at, and presents an opportunity seldom obtained to secure thorough pedigreed and very superior stock, at comparatively very low prices. Further particulars can be obtained by addressing (post paid) Mr. S. Canby, Wilmington, Del. or the subscriber. S. SANDS.